1. A method of extracting red and green signals from an active pixel sensor, comprising:

providing a pixel comprising a P type silicon substrate, a deep N well formed in said substrate, a number of P wells formed in said deep N well, an N^+ region formed in each of said P wells, and a P^+ region formed in said deep N well, wherein said deep N well has a first depth which is about equal to the depth of hole electron pairs generated in silicon by red light and each of said P wells has a second depth which is about equal to the depth of hole electron pairs generated in silicon by green light;

electrically isolating said P wells and said deep N well, after resetting the potential between each of said P wells and said substrate to a first voltage and the potential between said deep N well and said substrate to a second voltage, accumulating charge at the PN junctions between each of said P wells and said deep N well, and determining the potential between each of said P wells and said deep N well, wherein the potential between each of said P wells and said deep N well provides a red/green signal at each of said P wells;

electrically isolating said P wells and maintaining said deep N well at a third voltage, after resetting the potential between each of said P wells and said substrate to said first voltage and the potential between said deep N well and said substrate to said second voltage, accumulating charge at the PN junctions between each of said P wells and said deep N well, and determining the potential between each of said P wells and said deep N well, wherein the potential between each of said P wells and said deep N well provides a green signal at each of said P wells; and

determining a red signal at each of said P wells by subtracting said green signal at each of said P wells from said red/green signal at that said P well.

2. The method of claim 1 wherein said first, second, and third voltages are all greater than zero.

3. The method of claim 1 wherein said determining the potential between each of said P wells and said deep N well comprises determining the potential between each of said P wells and said substrate, while holding the potential between said deep N well and said substrate at a fourth voltage, and subtracting said fourth voltage from said potential between each of said P wells and said substrate.

4. A method of extracting red and green signals from an active pixel sensor, comprising:

providing a pixel comprising an N type silicon substrate, a deep P well formed in said substrate, a number of N wells formed in said deep P well, a P^+ region formed in each of said N wells, and an N^+ region formed in said deep P well, wherein said deep P well has a first depth which is about equal to the depth of hole electron pairs generated in silicon by red light and each of said N wells has a second depth which is about equal to the depth of hole electron pairs generated in silicon by green light;

electrically isolating said N wells and said deep P well, after resetting the potential between each of said N wells and said substrate to a first voltage and the potential between said deep P well and said substrate to a second voltage, accumulating charge at the PN junctions between each of said N wells and said deep P well, and determining the potential between each of said N wells and said deep P well, wherein the

potential between each of said N wells and said deep P well provides a red/green signal at each of said N wells;

electrically isolating said N wells and maintaining said deep P well at a third voltage, after resetting the potential between each of said N wells and said substrate to said first voltage and the potential between said deep P well and said substrate to said second voltage, accumulating charge at the PN junctions between each of said N wells and said deep P well, and determining the potential between each of said N wells and said deep P well, wherein the potential between each of said N wells and said deep P well provides a green signal at each of said N wells; and

determining a red signal at each of said N wells by subtracting said green signal at each of said N wells from said red/green signal at that said N well.

5. The method of claim 4 wherein said first, second, and third voltages are all less than zero.

6. The method of claim 4 wherein said determining the potential between each of said N wells and said deep P well comprises determining the potential between each of said N wells and said substrate, while holding the potential between said deep P well and said substrate at a fourth voltage, and subtracting said fourth voltage from said potential between each of said N wells and said substrate.

7. A method of extracting red and green signals from an active pixel sensor, comprising:

providing a pixel comprising a P type silicon substrate, a deep N well formed in said substrate, a number of P wells formed in said deep N well, an N^+ region formed in each of said P wells, and a P^+ region formed in said deep N well, wherein said deep N well has a first depth which is about equal to the depth of hole electron pairs generated in silicon by red light and each of said P wells has a second depth which is about equal to the depth of hole electron pairs generated in silicon by green light;

resetting the potential between each of said P wells and said substrate to a first voltage and the potential between said deep N well and said substrate to a second voltage during a first reset period;

electrically isolating said P wells and said deep N well, and accumulating charge at the PN junctions between each of said P wells and said deep N well during a first charge integration period, wherein said first charge integration period immediately follows said first reset period;

determining the potential between each of said P wells and said deep N well at the end of said first charge integration period;

resetting the potential between each of said P wells and said substrate to said first voltage and the potential between said deep N well and said substrate to said second voltage during a second reset period;

electrically isolating said P wells, maintaining the potential between said deep N well and said substrate at a third voltage, and accumulating charge at the PN junctions between each of said P wells and said deep N well during a second charge integration

period, wherein said second charge integration period immediately follows said second reset period;

determining the potential between that each of said P wells and said deep N well at the end of said second charge integration period;

determining a red/green signal at each of said P wells, wherein said red/green signal at each of said P wells is the potential between that said P well and said deep N well at the end of said first charge integration period;

determining a green signal at each of said P wells, wherein said green signal at each of said P wells is the potential between that said P well and said deep N well at the end of said second charge integration period; and

determining a red signal at each of said P wells by subtracting said green signal at each of said P wells from said red/green signal at that said P well.

8. The method of claim 7 wherein said first depth is between about 1.0 and 3.0 micrometers.

9. The method of claim 7 wherein said second depth is between about 0.1 and 0.65 micrometers.

10. The method of claim 7 wherein said first, second, and third voltages are all greater than zero.

11. The method of claim 7 wherein said second voltage is equal to said third voltage.

12. The method of claim 7 wherein said determining the potential between each of said P wells and said deep N well at the end of said first charge integration period comprises setting the potential between said deep N well and said substrate to a fourth voltage with said P wells isolated, determining the potential between each of said P wells and said substrate; and subtracting said fourth voltage from said potential between each of said P wells and said substrate.

13. The method of claim 7 wherein said fourth voltage is equal to said third voltage.

14. The method of claim 7 wherein said determining the potential between each of said P wells and said deep N well at the end of said second charge integration period comprises maintaining the potential between said deep N well and said substrate at said third voltage with said P wells isolated, determining the potential between each of said P wells and said substrate; and subtracting said third voltage from said potential between each of said P wells and said substrate.

15. A method of extracting red and green signals from an active pixel sensor, comprising:

providing a pixel comprising an N type silicon substrate, a deep P well formed in said substrate, a number of N wells formed in said deep P well, a P^+ region formed in each of said N wells, and an N^+ region formed in said deep P well, wherein said deep P well has a first depth which is about equal to the depth of hole electron pairs generated in silicon by red light and each of said N wells has a second depth which is about equal to the depth of hole electron pairs generated in silicon by green light;

resetting the potential between each of said N wells and said substrate to a first voltage and the potential between said deep P well and said substrate to a second voltage during a first reset period;

electrically isolating said N wells and said deep P well, and accumulating charge at the PN junctions between each of said N wells and said deep P well during a first charge integration period, wherein said first charge integration period immediately follows said first reset period;

determining the potential between that each of said N wells and said deep P well at the end of said first charge integration period;

resetting the potential between each of said N wells and said substrate to said first voltage and the potential between said deep P well and said substrate to said second voltage during a second reset period;

electrically isolating said N wells, maintaining the potential between said deep P well and said substrate at a third voltage, and accumulating charge at the PN junctions between each of said N wells and said deep P well during a second charge integration

period, wherein said second charge integration period immediately follows said second reset period;

determining the potential between each of said N wells and said deep P well at the end of said second charge integration period;

determining a red/green signal at each of said N wells, wherein said red/green signal at each of said N wells is the potential between that said N well and said deep P well at the end of said first charge integration period;

determining a green signal at each of said N wells, wherein said green signal at each of said N wells is the potential between that said N well and said deep P well at the end of said second charge integration period; and

determining a red signal at each of said N wells by subtracting said green signal at each of said N wells from said red/green signal at that said N well.

16. The method of claim 15 wherein said first depth is between about 1.0 and 3.0 micrometers.

17. The method of claim 15 wherein said second depth is between about 0.1 and 0.65 micrometers.

18. The method of claim 15 wherein said first, second, and third voltages are all less than zero.

19. The method of claim 15 wherein said second voltage is equal to said third voltage.

20. The method of claim 15 wherein said determining the potential between each of said N wells and said deep P well at the end of said first charge integration period comprises setting the potential between said deep P well and said substrate to a fourth voltage with said N wells isolated, determining the potential between each of said N wells and said substrate; and subtracting said fourth voltage from said potential between each of said N wells and said substrate.

21. The method of claim 15 wherein said fourth voltage is equal to said third voltage.

22. The method of claim 15 wherein said determining the potential between each of said N wells and said deep P well at the end of said second charge integration period comprises maintaining the potential between said deep P well and said substrate at said third voltage with said N wells isolated, determining the potential between each of said N wells and said substrate; and subtracting said third voltage from said potential between each of said N wells and said substrate.

23. A pixel, comprising:

a P type silicon substrate;

a deep N well formed in said substrate, wherein said deep N well has a first depth and wherein said first depth is about equal to the depth of hole electron pairs generated in silicon by red light;

a number of P wells formed in said deep N well, wherein said each of said P wells has a second depth and wherein said second depth is about equal to the depth of hole electron pairs generated in silicon by green light;

an N^+ region formed in each of said P wells; and

a P^+ region formed in said deep N well.

24. The pixel of claim 23 wherein said P type substrate is a P type epitaxial silicon substrate.

25. The pixel of claim 23 wherein said first depth is between about 1.0 and 3.00 micrometers.

26. The pixel of claim 23 wherein said second depth is between about 0.1 and 0.65 micrometers.

27. A pixel, comprising:

an N type silicon substrate;

a deep P well formed in said substrate, wherein said deep P well has a first depth and wherein said first depth is about equal to the depth of hole electron pairs generated in silicon by red light;

a number of N wells formed in said deep P well, wherein said each of said N wells has a second depth and wherein said second depth is about equal to the depth of hole electron pairs generated in silicon by green light;

a P^+ region formed in each of said N wells; and

an N^+ region formed in said deep P well.

28. The pixel of claim 27 wherein said N type substrate is an N type epitaxial silicon substrate.

29. The pixel of claim 27 wherein said first depth is between about 1.0 and 3.00 micrometers.

30. The pixel of claim 27 wherein said second depth is between about 0.1 and 0.65 micrometers.